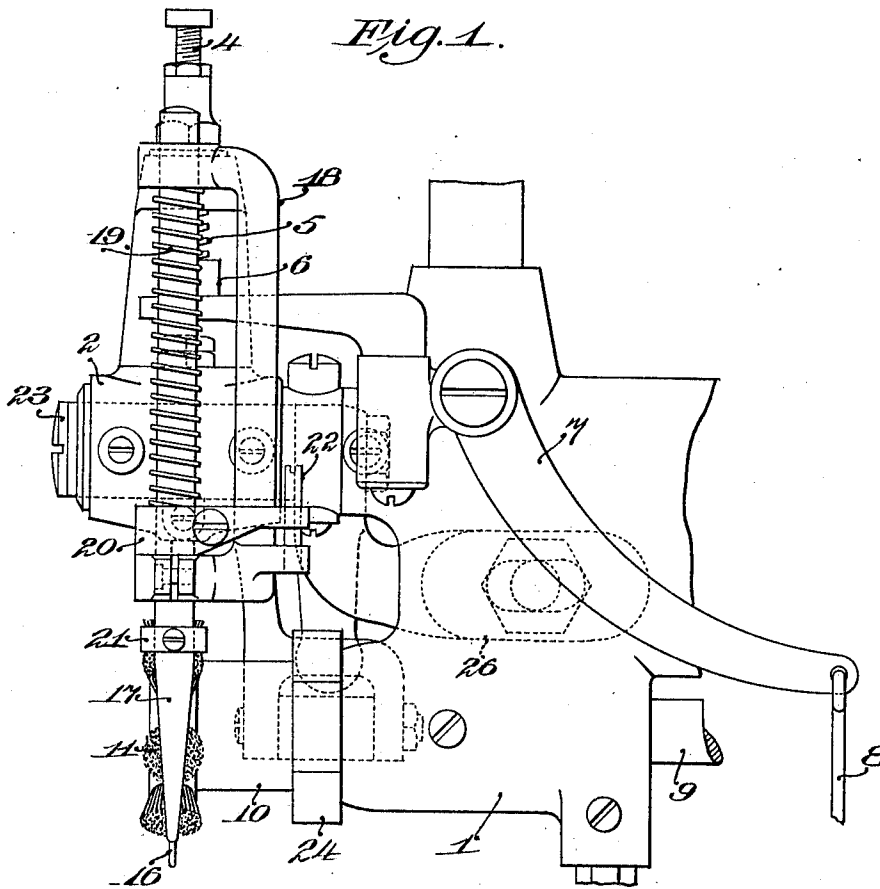


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CHANNEL CEMENTING MACHINE.
APPLICATION FILED JULY 16, 1904.

1,004,098.

Patented Sept. 26, 1911.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

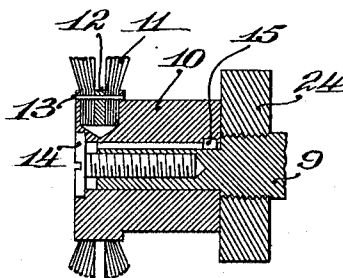
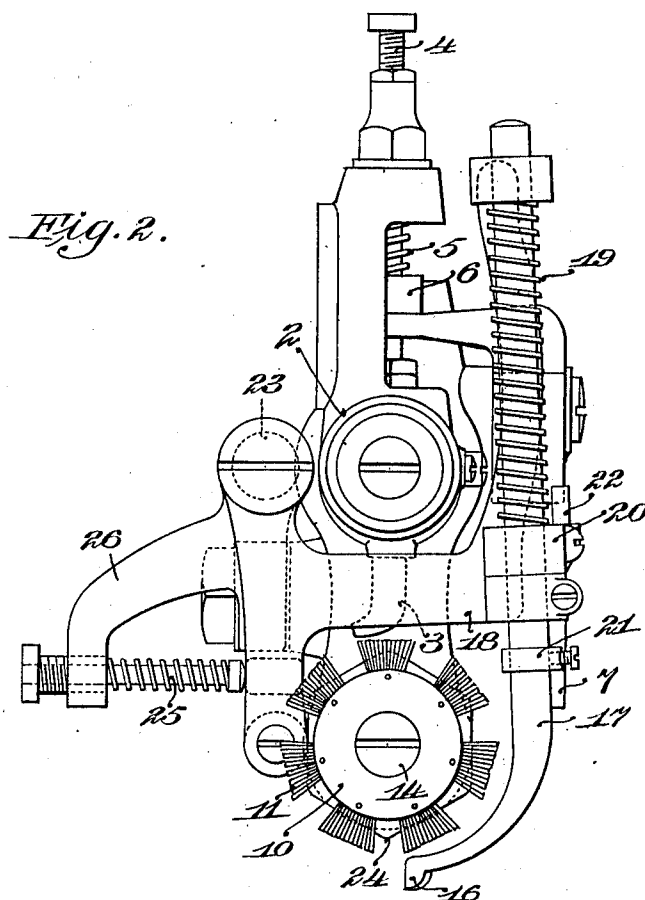


Fig. 3.

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UNITED STATES PATENT OFFICE.

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CHANNEL-CEMENTING MACHINE.

1,004,098.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed July 15, 1904. Serial No. 216,660.

To all whom it may concern:

Be it known that I, CHARLES P. STANBON, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Channel-Cementing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to channel cementing machines which are adapted to apply cement to the channel and channel flap of the outsole of a boot or shoe.

The object of the invention is to provide an improved means for guiding the shoe to the brush of a channel cementing machine in order to adapt the machine for operation upon soles provided with a narrow channel flap such as the soles of welted boots or shoes and soles provided with what are known in the art as English channels.

The invention is intended primarily as an improvement on the channel cementing machines disclosed in applicant's prior applications, No. 195,598 filed Feb. 27, 1904, and No. 213,781 filed June 23, 1904, to adapt said machines for operation upon the soles of welted boots or shoes or upon soles provided with English channels, but it is to be understood that the invention is not limited to use on the channel cementing machines disclosed in said applications, but is equally applicable to other forms of channel cementing machines.

A channel cementing machine embodying the present invention comprises a cement applying brush and guide arranged to enter the channel and guide the shoe to the brush. In accordance with one feature of the invention the guide is separate from the brush which moves independently thereof.

It has heretofore been proposed to provide a cement applying brush with a central rib formed integral with or rigidly secured to the hub of the brush and arranged to enter the channel and act as a guide for the shoe. The rib engages the channel for a sufficient portion of its length to interfere with the guiding of the shoe while the toe portion of the shoe is being operated upon,

and on account of its rotating movement tends to ride over the channel flap or over the outer edge of the sole. By providing a guide separate from the brush the guide can be arranged to remain in the channel without any tendency to leave the same and need extend only a comparatively short distance longitudinally of the channel so that the manipulation of the shoe is not interfered with and the shoe can be properly guided while all portions of the channel are being acted upon.

In accordance with another feature of the invention, the channel guide is yieldingly mounted so as to be movable in a direction substantially perpendicular to the surface of the sole. The guide can thus be so arranged that it normally projects a considerable distance beyond the periphery of the brush, in position to readily engage the channel of a shoe presented to the brush, and is caused to remain securely seated in the bottom of the channel as the shoe is fed along beneath the brush. This feature of the invention is not limited to a construction in which the guide is separate from the brush although such a construction is preferred for the reasons above stated.

Another feature of the invention contemplates vibrating the channel guide longitudinally of the channel as when such a vibrating movement is imparted to the guide less resistance is offered to the feeding of the shoe and any wrinkles or puckers in the channel flap are more effectually straightened out and the cement is more thoroughly applied to all portions of the flap.

In addition to the features of invention above referred to, the present invention also consists in certain devices, combinations and arrangements of parts hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art.

The various features of the present invention will be clearly understood from an inspection of the accompanying drawings in which—

Figure 1 is a view in side elevation of a portion of a channel cementing machine with the preferred embodiment of the present invention applied thereto. Fig. 2 is a view in front elevation of the parts illus-

trated in Fig. 1, and Fig. 3 is a detail sectional view of the cement applying brush, the cam from which the channel guide is vibrated, and the end of the shaft upon
5 which the cam and brush are mounted.

Referring to the drawings 1 indicates the head or frame of the machine upon the upper front portion of which is rigidly mounted a frame 2. The frames 1 and 2 are provided with suitable passage ways for the
10 cement which lead to a delivery tube 3 from which cement is supplied to the brush. The passage way to the tube 3 is controlled by a suitable valve at the lower end of a
15 rod 4 mounted to reciprocate in vertical guideways in the frame 2. This rod is held depressed by means of a spring 5 coiled around the rod and bearing against a block 6 secured to the rod and may be raised by
20 means of a lever 7 pivoted upon the frame 1, the forward end of which extends beneath the block 6 and the rear end of which is connected by a rod 8 to a foot treadle. An actuation of the lever 7 by depressing the
25 foot treadle raises the rod 4 and the valve connected therewith so that the flow of cement to the brush can be controlled by the operator and the cement delivered at such times and in such quantities as may be de-
30 sired.

The cement applying brush is secured upon the forward end of a rotating shaft 9 mounted in bearings in the lower portion of the frame 1, and consists of a cylindrical
35 hub 10 and a series of radial tufts of bristles 11. The tufts of bristles are set in holes bored radially in the hub of the brush and are secured therein by thin blocks or wedges 12 which are fastened to the hub by means
40 of securing pins 13. The blocks 12 separate the bristles as illustrated in Fig. 3 so as to form a passage way to receive the channel guide hereinafter described. The hub 10 of the brush is secured upon the end of the
45 shaft 9 by means of a screw 14 and is provided with a pin 15 which enters a groove in the shaft 9 so that the brush is caused to rotate with the shaft.

The channel guide is indicated at 16 and is formed upon the lower end of a rod 17 mounted to move vertically in bearings
50 formed in a frame 18. The rod 17 is located at one side of the brush and its lower end is curved substantially concentric with the brush so that the guide 16 is arranged directly beneath the brush and will enter the
55 passage way in the bristles of the brush formed by the blocks 12 when the guide is raised. It will be noticed that the guide 16 depends pivotlike beneath the brush and at a point substantially central of the field of
60 action thereof, permitting free adjustment of the work in any direction at said central point about said guide. The rod 17 and the
65 guide 16 carried thereby are normally held

depressed by means of a spring 19 coiled around the rod and interposed between the upper bearing on the frame 18 and a block 20 secured to the rod, the block by contact-
70 ing with the lower bearing in the frame 18 limiting the downward movement of the rod. When the rod is in its lowest position the guide 16 extends below the periphery of the brush in a position to enter the
75 channel when a shoe is presented to the brush. The guide seats itself in the channel before the shoe is brought into contact with the brush so that a correct positioning of the shoes is insured before any cement is applied thereto. As the shoe is pressed
80 against the brush the spring 19 yields and the guide 16 is raised as high as desired or until a collar 21 adjustably secured to the rod 17 contacts with the lower bearing of the
85 frame 18. By adjusting the collar 21 on the rod 17 the extent of the upward movement permitted to the channel guide can be varied so that by these means the pressure of the shoe against the brush can be adjusted and
90 the amount of cement applied to the shoe regulated. In order to prevent the rod 17 from turning in its bearing the block 20 is extended rearwardly as illustrated in Fig. 1, and is provided with a slot which engages
95 a vertical pin 22 projecting upwardly from the frame 18.

It is desirable that the channel guide 16 be vibrated during the operation of the machine longitudinally of the channel and to this end the frame 18 is pivotally mounted
100 upon a stud 23, and is provided with an arm in which is journaled a roll arranged to engage the periphery of a cam 24 secured upon the forward end of the shaft 9 at the rear of the cement applying brush. The roll is
105 held in engagement with the cam by means of a spring pressed plunger 25 which bears against the frame 18 and which is mounted in a bracket 26 secured to the frame 1. The stud 23 upon which the frame 18 is mounted
110 is arranged parallel with the axis of the cement applying brush and thus the vibrating movements imparted to the frame 18 by the cam 24 and the plunger 25 cause the guide
115 16 to be vibrated in the direction of the feed and longitudinally of the channel. The stud 23 is secured in the bracket 26 and in order that the guide 16 may be brought into a position in line with the center of the brush
120 the bracket is adjustably secured to the frame 1 by means of a bolt passing through a slot in the bracket as is clearly indicated by the dotted lines in Fig. 1.

The nature and scope of the invention having been indicated and the preferred embodiment of the invention having been specifically described, what is claimed is:—

1. A channel cementing machine, having, in combination, a cement applying brush, and an adjustable vibrating guide separate
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from the brush arranged to enter the channel and guide the shoe to the brush, substantially as described.

2. A channel cementing machine, having, in combination, a cement applying brush, and a work feeding guide separate from the brush arranged to enter the channel and movable in approximately the central vertical plane of rotation of said brush and in a direction substantially perpendicular to the sole.

3. A channel cementing machine, having, in combination, a cement applying brush and a work feeding guide concentric therewith, separate from and beneath the brush, arranged to enter the channel and yieldingly mounted, thereby to move in a direction substantially perpendicular to the sole, substantially as described.

4. A channel cementing machine, having, in combination, a cement applying brush, a guide arranged to enter the channel and guide the shoe to the brush and means for vibrating the guide longitudinally of the channel, substantially as described.

5. A channel cementing machine, having, in combination, a cement applying brush, a yieldingly mounted guide arranged to enter the channel and movable in a direction substantially perpendicular to the sole, and means for vibrating the guide longitudinally of the channel, substantially as described.

6. A channel cementing machine, having, in combination, a cement applying brush, a yieldingly mounted guide arranged to enter the channel and movable in a direction substantially perpendicular to the sole, means for vibrating the guide longitudinally of the channel, and means to secure relative lateral adjustment of said brush and guide.

7. A channel cementing machine comprising in combination a cement applying brush, a circumferential passage through the bristles thereof, a yieldingly mounted guide, means to vibrate the same in approximately the central plane of rotation of the brush, a mounting for said guide permitting it to enter the channel in advance of the brush to guide the channel to the brush, and to enter the passage in the brush as the work is presented thereto.

8. A channel cementing machine comprising, in combination, a cement applying brush having a passage-way, a guide extending beneath the brush, means for permitting the guide to enter the passage-way in the brush as the work is presented to the action of the machine.

9. In a channel cementing machine, the combination of a rotary cement applying brush, a guide arranged to enter the channel of and to guide the shoe, a cam device and connections between it and the guide for moving the latter longitudinally of the channel.

10. In a channel cementing machine, the combination of a cement applying brush, an adjustable reciprocating guide 16 to engage the channel of the shoe and to guide the shoe to the brush, said guide being mounted independent of the brush and extending below the same.

11. A channel cementing machine comprising, in combination, a cement applying brush, a guide and supporting means therefor causing it to enter the channel of the sole in advance of said brush, for guiding the sole thereto.

12. In a channel cementing machine the combination of a rotary cement applying brush, a vibratory guide arranged to enter the channel for guiding the sole to the brush, and means for rotating said brush and vibrating said guide in the channel for feeding the sole.

13. A cementing machine comprising a reservoir, a head having a passage therethrough for the cement, a valve to regulate the flow of the cement therefrom, a cement applying brush, an adjustable guide mounting, means to impart a rocking motion thereto, and a guide so mounted therein that it guides the channel to the brush, rocks in approximately the central plane of rotation of said brush, and is received into the brush as the channel contacts therewith.

14. A channel cementing machine having, in combination, a cement applying brush, and an adjustable vibrating guide separate from the brush, means to restrain said guide from axial rotation, said guide arranged to enter the channel and guide the shoe to the brush.

15. A channel cementing machine having, in combination, a cement applying brush, and a yieldingly mounted guide arranged to enter the channel and movable in a direction substantially perpendicular to the sole, and means to restrain said guide from turning axially, substantially as described.

16. In a machine of the class described the combination of a cement applying brush and a movable work pivoting channel guide mounted independently of said brush and substantially central of its field of action.

17. In a machine of the class described the combination of a cement applying brush and a movable work pivoting channel entering guide at the lower active face of said brush.

18. In a machine of the class described the combination of a cement applying brush and a movable work pivoting channel entering guide depending below said brush.

19. In a machine of the class described the combination of a cement applying brush and a longitudinally vibratable and vertically yielding work pivoting channel entering guide for said brush.

20. In a machine of the class described

the combination of a cement applying brush and a guide without said brush arranged to enter the channel and guide the shoe to the brush.

5 21. In a machine of the class described, a cement applying brush provided with a circumferential passage, a guide adapted to engage the work to guide it to the brush, and means for permitting depression of said
10 guide in said passage upon contact of the work with the brush.

22. In a machine of the class described, a cement applying brush provided with a circumferential passage, a guide adapted to

engage the work to guide it to the brush, 15 means permitting depression of said guide in said passage upon contact of the work with the brush and means for freeing said guide from said passage on removal of the work from said brush to permit said guide 20 to again guide the work to said brush.

In testimony whereof I affix my signature, in presence of two witnesses.

CHARLES P. STANBON.

Witnesses:

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FARNUM F. DORSEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."